

What is claimed is:

1. A method by an anonymity service provider for anonymous acquisition of a digital product by an entity, the method comprising:

5 receiving, from the entity, a plurality of acquisition-related variables necessary for the entity to acquire the digital product;

splitting at least some of the plurality of acquisition-related variables into a corresponding at least one set of variable secret shares;

10 for each of the at least one set of variable secret shares, sending the set of variable secret shares to a set of shareholders for long-term storage of the acquisition-related variables; and

fulfilling acquisition of the digital product by the entity based on the plurality of acquisition-related variables such that a provider of the digital product is unable to identify the entity.

15 2. The method of claim 1, further comprising:

assigning a transaction identification to the plurality of acquisition-related variables; and

20 associatively storing the transaction identification with identifications of shareholders of each set of shareholders.

3. The method of claim 1, wherein a first set of shareholders receive a first set of variable secret shares and at least a second set of shareholders receive at least a second set of variable secret shares.

25 4. The method of claim 3, wherein the first set of shareholders is not identical to the at least second set of shareholders.

5. The method of claim 4, wherein the first set of shareholders and each
30 of the at least second set of shareholders do not share any common members.

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6. The method of claim 3, wherein the first set of shareholders is identical to each of the at least second set of shareholders.

7. The method of claim 1, wherein the plurality of acquisition-related variables comprises an entity identification corresponding to the entity and a digital product identification corresponding to the digital product.

8. The method of claim 7, wherein the plurality of acquisition-related variables further comprises a purchase price corresponding to the digital product.

9. The method of claim 8, wherein the plurality of acquisition-related variables comprise credit information, and wherein fulfilling acquisition of the digital product further comprises:

verifying credit of the entity with a credit agency based on the entity identification, purchase price and credit information such that the credit agency is unable to identify the digital product or the provider of the digital product.

10. A method for an anonymity service provider to support anonymous acquisition, by an entity, of a digital product, the method comprising:

receiving, from the entity, an acquisition request comprising a digital product identification corresponding to the digital product and an entity identification corresponding to the entity;

assigning a transaction identification that uniquely identifies the acquisition request;

upon receipt of the digital product identification, splitting, without retaining, the digital product identification into a plurality of digital product identification secret shares;

upon receipt of the entity identification, splitting, without retaining, the entity identification into a plurality of entity identification secret shares; and

sending the transaction identification, the plurality of digital product identification secret shares and the plurality of entity identification secret shares to at least one set of shareholders,

wherein the anonymity service provider associatively stores the transaction identification with identifications of shareholders of the at least one set of shareholders.

5 11. The method of claim 10, wherein the anonymity service provider communicates with the entity via a public communication network.

12. The method of claim 10, wherein a first set of shareholders of the at least one set of shareholders receive the plurality of digital product identification
10 secret shares and a second set of shareholders of the at least one set of shareholders receive the plurality of entity identification secret shares.

13. The method of claim 12, wherein the first set of shareholders is not identical to the second set of shareholders.
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14. The method of claim 13, wherein the first set of shareholders and the second set of shareholders do not share any common members.

15. The method of claim 12, wherein the first set of shareholders is
20 identical to the second set of shareholders.

16. The method of claim 10, further comprising:
requesting, based on the stored transaction identification and identifications of
shareholders, the plurality of digital product identification secret shares from the at
25 least one set of shareholders;

reconstructing the digital product identification based on the plurality of digital product identification secret shares;

sending a digital product request comprising the digital product identification to a provider of the digital product, wherein the anonymity service provider does not
30 subsequently retain the digital product identification;

receiving, in response to the digital product request, the digital product from the provider;

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requesting, based on the stored transaction identification and identifications of shareholders, the plurality of entity identification secret shares from the at least one set of shareholders;

reconstructing the entity identification based on the plurality of entity
5 identification secret shares; and

sending the digital product to the entity based on the entity identification, wherein the anonymity service provider does not subsequently retain the entity identification.

10 17. The method of claim 16, wherein the acquisition request further comprises a purchase price corresponding to the digital product, the method further comprising:

upon receipt of the purchase price, splitting, without retaining, the purchase price into a plurality of purchase price secret shares; and

15 sending the plurality of purchase price secret shares to an additional set of shareholders,

wherein the anonymity service provider associatively stores the transaction identification with identifications of shareholders of the additional set of shareholders.

20 18. The method of claim 17, further comprising:

receiving, from the entity, credit information;

requesting, based on the stored transaction identification and identifications of shareholders, the plurality of purchase price secret shares from the additional set of shareholders;

25 reconstructing the purchase price based on the plurality of purchase price secret shares;

requesting, based on the stored transaction identification and identifications of shareholders, the plurality of entity identification secret shares from the at least one set of shareholders;

30 reconstructing the entity identification based on the plurality of entity identification secret shares;

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sending, based on the credit information, a credit verification request comprising the transaction identification, the entity identification, the purchase price and the credit information to a credit agency, wherein the anonymity service provider does not subsequently retain the entity identification, the purchase price and the credit information;

receiving, from the credit agency, a credit approval identification and the transaction identification;

requesting, based on the stored transaction identification and identifications of shareholders, the plurality of digital product identification secret shares from the at least one set of shareholders;

reconstructing the digital product identification based on the plurality of digital product identification secret shares;

sending the digital product identification and the credit approval identification to a clearing house in order to credit an amount equal to the purchase price to an account of the provider, wherein the anonymity service provider does not subsequently retain the digital product identification, the purchase price and the credit information.

19. An apparatus for providing anonymous acquisition of a digital product by an entity, comprising:

means for receiving, from the entity, a plurality of acquisition-related variables necessary for the entity to acquire the digital product;

means for splitting at least some of the plurality of acquisition-related variables into a corresponding at least one set of variable secret shares;

means for sending, for each of the at least one set of variable secret shares, the set of variable secret shares to a set of shareholders for long-term storage of the acquisition-related variables; and

means for fulfilling acquisition of the digital product by the entity based on the plurality of acquisition-related variables such that a provider of the digital product is unable to identify the entity.

20. The apparatus of claim 19, further comprising:
means for assigning a transaction identification to the plurality of acquisition-related variables; and
means for associatively storing the transaction identification with
5 identifications of shareholders of each set of shareholders.

21. An apparatus for providing anonymous acquisition of a digital product by an entity, comprising:

means for receiving, from the entity, an acquisition request comprising a
10 digital product identification corresponding to the digital product and an entity identification corresponding to the entity;

means for assigning a transaction identification that uniquely identifies the acquisition request;

means for splitting, without retaining, the digital product identification into a
15 plurality of digital product identification secret shares upon receipt of the digital product identification, and for splitting, without retaining, the entity identification into a plurality of entity identification secret shares; and

means for sending the transaction identification, the plurality of digital product identification secret shares and the plurality of entity identification secret shares to at
20 least one set of shareholders,

wherein the apparatus associatively stores the transaction identification with identifications of shareholders of the at least one set of shareholders.

22. The apparatus of claim 21, further comprising a network connection,
25 coupled to the means for receiving and the means for sending, whereby the apparatus communicates with the entity via a public communication network.

23. The apparatus of claim 21, further comprising:

means for requesting, based on the stored transaction identification and
30 identifications of shareholders, the plurality of digital product identification secret shares from the at least one set of shareholders;

means for reconstructing the digital product identification based on the plurality of digital product identification secret shares;

means for sending a digital product request comprising the digital product identification to a provider of the digital product, wherein the apparatus does not
5 subsequently retain the digital product identification;

means for receiving, in response to the digital product request, the digital product from the provider;

means for requesting, based on the stored transaction identification and identifications of shareholders, the plurality of entity identification secret shares from
10 the at least one set of shareholders;

means for reconstructing the entity identification based on the plurality of entity identification secret shares; and

means for sending the digital product to the entity based on the entity identification, wherein the anonymity service provider does not subsequently retain
15 the entity identification.

24. The apparatus of claim 23, wherein the acquisition request further comprises a purchase price corresponding to the digital product, the apparatus further comprising:

20 means for splitting, without retaining, the purchase price into a plurality of purchase price secret shares upon receipt of the purchase price; and

means for sending the plurality of purchase price secret shares to an additional set of shareholders,

wherein the apparatus associatively stores the transaction identification with
25 identifications of shareholders of the additional set of shareholders.

25. The apparatus of claim 24, further comprising:

means for receiving, from the entity, credit information;

means for requesting, based on the stored transaction identification and
30 identifications of shareholders, the plurality of purchase price secret shares from the additional set of shareholders;

means for reconstructing the purchase price based on the plurality of purchase price secret shares;

means for requesting, based on the stored transaction identification and identifications of shareholders, the plurality of entity identification secret shares from the at least one set of shareholders;

means for reconstructing the entity identification based on the plurality of entity identification secret shares;

means for sending, based on the credit information, a credit verification request comprising the transaction identification, the entity identification, the purchase price and the credit information to a credit agency, wherein the apparatus does not subsequently retain the entity identification, the purchase price and the credit information;

means for receiving, from the credit agency, a credit approval identification and the transaction identification;

means for requesting, based on the stored transaction identification and identifications of shareholders, the plurality of digital product identification secret shares from the at least one set of shareholders;

means for reconstructing the digital product identification based on the plurality of digital product identification secret shares; and

means for sending the digital product identification and the credit approval identification to a clearing house in order to credit an amount equal to the purchase price to an account of the provider, wherein the apparatus does not subsequently retain the digital product identification, the purchase price and the credit information.